

163781

Page 1

N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 8/2/2017 **Start Qty:** 4.00

4

Cust Item ID:

Required Date: 8/9/2017 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals: **Process Plan:**

Date: JUL 11 2017 Tooling:

Date:

Run Start *NR1*

QC:

Date: _____ **SPC (Y/N):** _____

Date:

Stop *NR2*

DAS
45
9-89
2017-7-20

DAS
45
9-89
2017-7-20

DAS
49
9-89

17/07/2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Monday, July 10, 2017 11:50:45 AM

163781

Page 2

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Item Name: Step Support Bracket

Start Date: 8/2/2017 **Start Qty:** 4.00 ***4***

Cust Item ID:

Required Date: 8/9/2017 **Req'd Qty:** 4.00 *** 1 ***

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

130

0.00

130

Small Fab

0.42

Small Fab

Memo

Small Fab

Debutt

140

White Gloss(Ref:4.3.5.1) per QSI005.4.3.76 Alum/	0.00
--	------

0.00

140

Memo

0.24

Powdercoat

Memo

Powder Coating

START TIME?

OVEN TEMPERATURE:

200 FINISH TIME:

150

QC3- Inspect Part Finish

0.00

150

Memo

0.04

OC

Quality Control

DAS
38
9-89
AUG 01 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																		
Description Work Order Deviation				Disposition				Completed By																	
								Lead hand / Supervisor Approval Verification																	
										QC / QA Coordinator Approval															
Root Cause				FAULT CATEGORY																					
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐		No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐															
OTHER : ☐																									

Monday, July 10, 2017 11:50:45 AM

163781

Page 3

Accept

N900040100

Setup Start *NS1*

Stop *NS2*

Item Name: Step Support Bracket

Start Date: 8/2/2017 **Start Qty:** 4.00 ***4***

Cust Item ID:

Required Date: 8/9/2017 **Req'd Qty:** 4.00 *** 1 ***

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

160

0.00

160

Small Fab

0.50

Small Fab

Memo

Small Fab

Bond rubber D2397-1 followed by D2397-3 using contact cement as per Dwg
D2362 Batch

3M Rubber and Gasket adhesive
1300L M137275

170

QC5- Inspect part completeness to step on W/O	0.00
---	------

0.00

170

QC

Memo

0.08

Quality Control

180

Identify as per dwg & Stock Location: 53 0.00

0.00

180

Packaging

Memo

0.04

Packaging

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																											
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Misidentified ☐	Past Due ☐																																																														

163781

Monday, July 10, 2017 11:50:45 AM

N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 8/2/2017 **Start Qty:** 4.00 ***4***

Cust Item ID:

Required Date: 8/9/2017 **Req'd Qty:** 4.00 *** 1 ***

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/
Work Center ID

Operation Description

Set Up/ Run Hours

Tool ID**Tool #****Plan
Code**

**Accept
Qty**

Reject
Qty

Reject Number

Insp.
Stamp

190

QC21- Final Inspection - Work Order Release

0.00

190

QC

Memo

0.40

Quality Control

**DAS
21
9-89**

AUG 03 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
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Misidentified ☐	Past Due ☐																																																																

Picklist Print

Monday, July 10, 2017 11:50:42 AM

Page 1

Work Order ID: 163781

163781

Parent Item: D2362-3

D2362-3

Parent Item Name: Step Support Bracket

Start Date: 8/2/2017

Required Date: 8/9/2017

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP: G00.05.18Added inspection level 8EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2397-3 *D2397-3* Rubber Cushion		Manufactured	No			100	Each	10.0000	1	4			
									**				
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				GA				10					
				158691				10					
D2265 *D2265* Step Bracket		Manufactured	No			160	Each	18.0000	1	4			
									**				
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				MAT060				18					
				152767				18					
D2397-1 *D2397-1* Rubber Cushion		Manufactured	No			160	Each	12.0000	1	4			
									**				
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				GA				12					
				158692				12					

MLL
17-8-2

DAS
45 2017-7-14
9-89

MLL
17-8-2

4

4

4

DOA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : ☐					

40
400
3

200
200
200



RELEASED
98.12.14 KE

DESIGN	DRAWN BY	DART AEROSPACE LTD	REV. E
BW	CP	HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO.	SHEET 1 OF 3
KE	CP	D2362	
DATE	TITLE	SCALE	
98.12.04	STEP SUPPORT BRACKET	1:2	
A	95.02.15	NEW ISSUE	
B	95.03.22	CHANGED RUBBER TO D2397	
C	96.01.22	ADD D2362-5	
D	97.05.21	ADD D2362-7	
E	98.12.04	REDRAWN, ADD 2397-5	

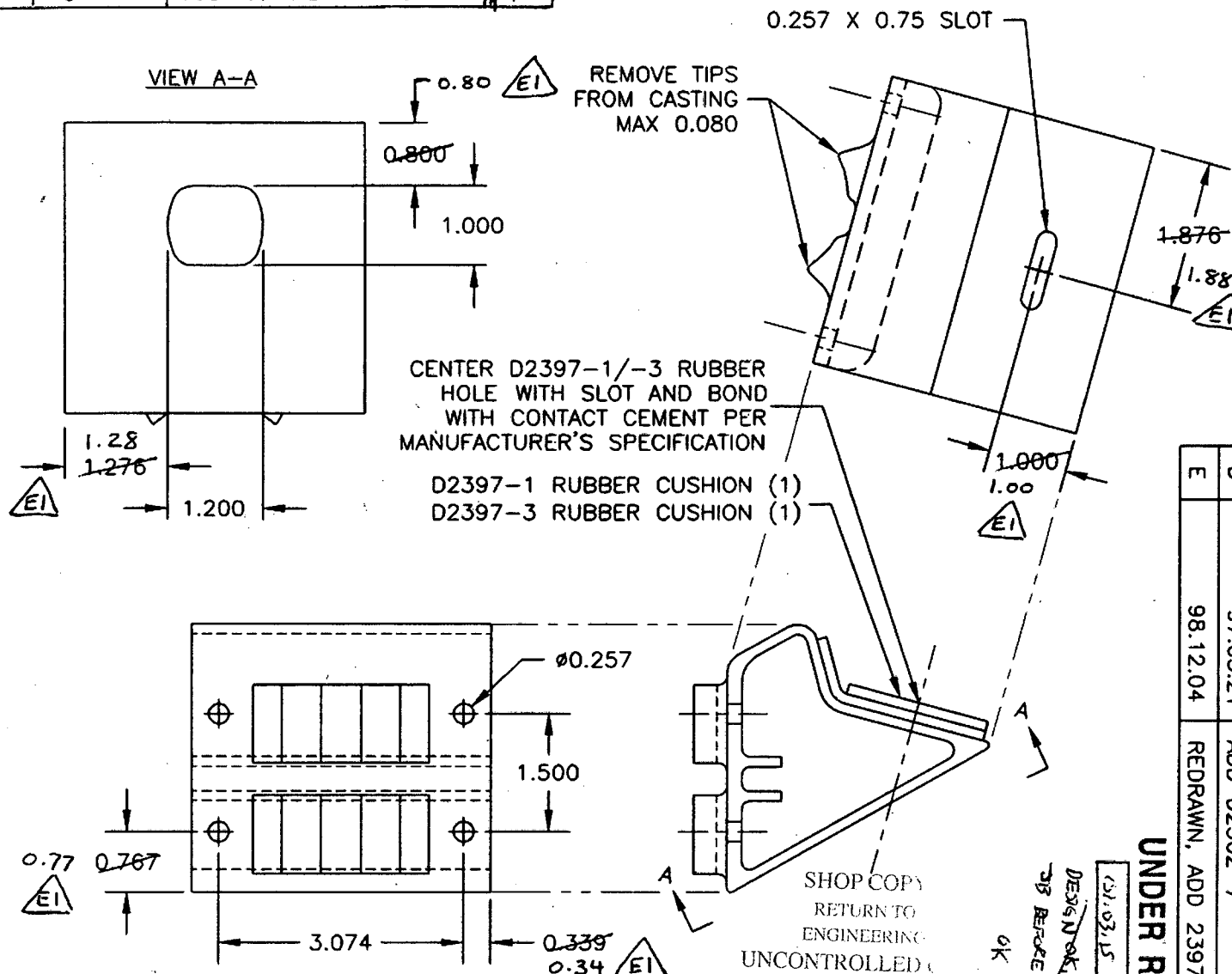
UNDER REVIEW

15.03.15 CP

DESIGN OK, BUT CHECK WITH
78 BEFORE MANUFACTURE
OK 10/11/04

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 1637814
JUL 11 2017

D2362-3

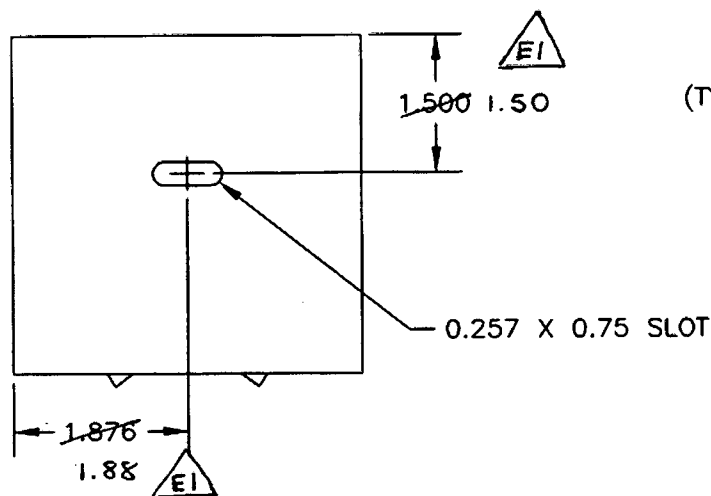


NOTES:
MAKE FROM D2265
FINISH: POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3 BEFORE BONDING
RUBBER IN PLACE
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED



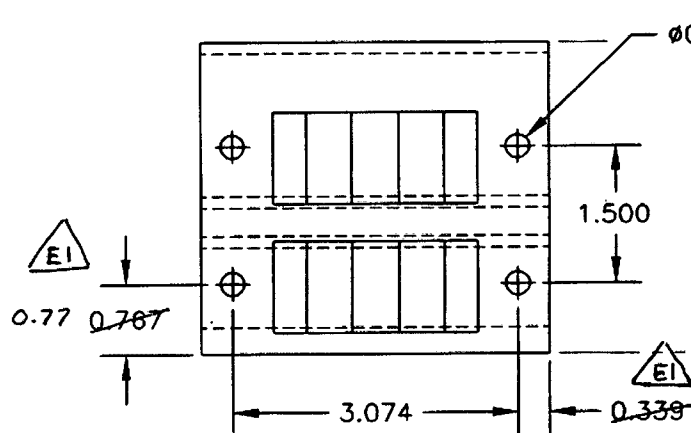
DESIGN	BW	DRAWN BY	CP	DART AEROSPACE LTD	REV. E
CHECKED	KE	APPROVED	KE	HAWKESBURY, ONTARIO, CANADA	
DATE	98.12.04	TITLE	D2362	SHEET 2 OF 3	
		STEP SUPPORT BRACKET		SCALE	1:2

VIEW A-A



MACHINE TO
R1.100
(TYP 2 PLACES)

REMOVE TIPS
FROM CASTING
MAX 0.080



R16.680

BLACK ANTI-SKID PAINT FOR D2362-1
INSTALL D2397-5 (1) FOR D2362-5

D2362-1 & D2362-5

NOTES:

MAKE FROM D2265

D2362-1: BLACK ANTI-SKID PAINT PER DART QSI 005 4.4

D2362-5: INSTALL D2397-5 RUBBER CUSHION. ALIGN RUBBER HOLE WITH SLOT
AND BOND USING CONTACT CEMENT PER MANUFACTURER'S SPECIFICATION

FINISH: POWDER COAT WHITE (REF. 4.3.5.1) PER QSI 005 4.3

BEFORE ANTI-SKID PAINT OR BEFORE INSTALLING D2397-5

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

RELEASED
98.12.14
UNDER REVIEW

DESIGNER'S, BUT CHECK BY
OR BEFORE MANUFACTURE
OK 98.12.09

DART



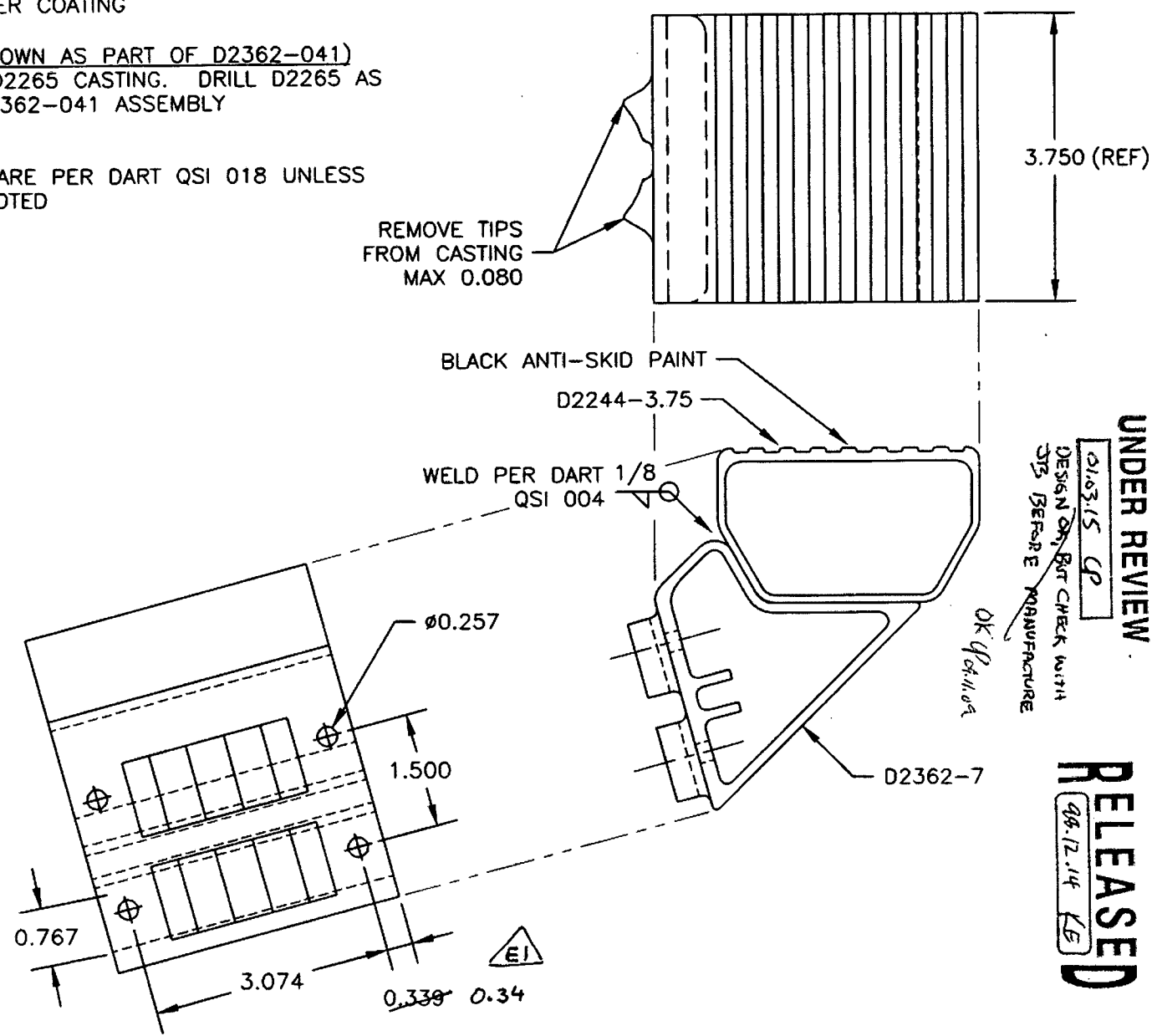
DESIGN	BW	DRAWN BY	CP	DART AEROSPACE LTD
CHECKED	FE	APPROVED	FE	HAWKESBURY, ONTARIO, CANADA
DATE	98.12.04	DRAWING NO.	D2362	REV. E
TITLE	STEP SUPPORT BRACKET	SHEET 3 OF 3	SCALE	1:2

UNDER REVIEW

RELEASED

01.03.15 CP
DESIGN ON BUT CHECK WITH
DTS BEFORE MANUFACTURE

OK 04.11.04



D2362-041 (SHOWN)
FINISH: POWDER COAT WHITE (REF. 4.3.5.1) PER
QSI 005 4.3
ANTI-SKID PAINT PER QSI 005 4.4 AFTER
POWDER COATING

D2362-7 (SHOWN AS PART OF D2362-041)
MAKE FROM D2265 CASTING. DRILL D2265 AS
SHOWN IN D2362-041 ASSEMBLY

NOTES:
TOLERANCES ARE PER DART QSI 018 UNLESS
OTHERWISE NOTED